THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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EDITORIAL NOTES.

We are always as ready to record the advances made by honest workers as we are to "revile" the backslidings of charlatans, and therefore we record with pride the fact that a veterinarian has done work acceptable to the Royal Society. In the Proceedings (Vol. 46) of that distinguished body is an article on "The Chemistry of the Urine of the Horse," by Fred Smith, Professor Army Veterinary School, Aldershot. Professor Coleman was, we believe, a F.R.S., but we know of no previous research by an English veterinarian which has had the honour of appearing in the Proceedings. It is not our intention here to notice the subject matter of Professor Smith's work. We only note that fifty-four complete analyses were made and that the investigations extended over a period of two years. The character and originality of the work is assured by its publication.

We published last week a note from the *North British Agriculturist* concerning Glanders in Edinburgh. Our northern contemporary seemed horrified to think that "a large draft of horses from a glanders-smitten stable had been sold by public auction," and truthfully pointed out that if such were the case "there may now be fourteen or fifteen centres of glanders in the city or district." It is now affirmed that the owner of the diseased horses had two stables, and that none of the horses sold were from the infected stable. Lucky Edinburgh! We in London have become utterly callous to the spread of glanders, and the sale of diseased studs is of weekly occurrence. There is no law to prevent it, and no redress for the unfortunate buyer of diseased horses. They are not sold with a warranty, and of course not with developed signs of the malady apparent. When the owner of a stud of say a hundred horses has lost half of them from glanders, he arrives at a very evident conclusion that in all probability the remaining half are infected, and that he had better sell them. He does so, and no one says he must not. To other stables these horses carry the disease, and a continuous circle of infection is kept going. Some stables are never free from infection, others arrive at a clean bill of health simply by destroying or selling all the horses on the premises. Nobody notices it, nobody cares—except the unfortunate sufferers who are impoverished or ruined. Annually more horses die from glanders than would supply remounts for the whole British Army, and the loss is never noticed. Here and there an inquest gives publicity to the fact that *men* die of glanders. Some few of the cases reach the press and cause a mild commotion for two or three days, and then the subject drops back into oblivion. When the Contagious Diseases (Animals) Act comes up again for amendment it is to be earnestly hoped that some provision may be made to stop the sale of horse from infected studs until at least a month has elapsed since the last case was seen amongst them. Last week's quotation reflected on the discharge of his duties by the veterinary inspector. This was an inaccuracy, and the inspector is now shown to have done his duty and to be in no way chargeable with laxity.

The difficulties in the way of legislation for tuberculosis was the subject of an extract we printed last week. The proposed Order to which they referred was one for the slaughter of diseased animals, the payment of compensation, the seizure and compulsory slaughter of diseased animals exposed in public places.

The difficulties suggested are :—

1. Tuberculosis is sometimes difficult to detect and therefore some would probably escape—The evident reply to this is, that if ten or twenty per cent. did escape we should ensure the destruction of the other eighty or ninety and thus do a great deal of good.

2. There are other diseases constantly mistaken for tuberculosis—A similar remark applies to glanders, rabies, anthrax, and swine-fever—not to mention pleuro-pneumonia—and yet all these diseases are provided for with more or less effect.

3. Tuberculosis might affect high-priced pedigree stock, and the inspector would see cases which could only be diagnosed by a *post-mortem* examination—He meets a similar difficulty now both in glanders and pleuro-pneumonia. He evades it by not acting rashly and by isolating the suspected animal. He would act in a similar manner by tuberculosis.

4. Compensation for slaughter is now based upon the value of an animal immediately before it became diseased. If this rule be applied to tuberculosis, an old cow not worth more than its hide would have to be paid for at its original value—Surely no one proposes such action. Provision could be made for a fair valuation.

If these are *all* the "difficulties" human ingenuity will not be greatly overtaxed to surmount them.

ARTICLES AND CASES.

YEW POISONING.

By F. W. Emery, Pewsey.

In your issue of 26th October I see an article on yew poisoning. Having had some experience on this subject I beg to state a fact which I was forcibly struck with at the time of the occurrence, and which may be of some use to your readers.

I noted that amongst several cattle suffering from yew (Taxus Baccata) poisoning, only those allowed to partake of copious draughts of water succumbed to its toxic effects, though several of the cattle showing quite as severe symptoms recovered, but these were carefully kept away from the water. The animals allowed the water expired shortly after drinking.

I was mentioning this fact one day in the hearing of a fellow student and he informed me that he was very much impressed with the same fact, the case he noted being among horses.

PLEURO-PNEUMONIA CYSTS.

By Jas. McKenny, M.R.C.V.S., Dublin.

In your Journal of the 26th ult. you published a communication relative to the formation of cysts in the lungs of cattle suffering from pleuro-pneumonia. In it the writer bases his theory on the fact that "in contagious pleuro-pneumonia the inflammatory lesions are of greater intensity than in ordinary forms of lung inflammation." No doubt the affected portion of the lungs, usually in contagious pleuro-pneumonia, become heavier than in ordinary forms of inflammation of the lungs; but cysts do not occur when the extent of the intensity of the inflammatory lesions is the greatest, but on the contrary, the more limited it is the more frequently cysts form. Therefore it is not consistent with the whole facts of the matter to base a theory relative to the formation of cysts in the lungs of cattle suffering from contagious pleuro-pneumonia on the fact that in the disease the inflammatory lesions are of greater intensity than in ordinary forms of lung inflammation, as cysts are not formed when the inflammation is acute or intense, but are the result of chronicly torpid irritation, as indicated by the nature of the symptoms exhibited.

It is a well-established fact that ordinary inflammation of the lungs usually assumes the acute form, and contagious pleuro-pneumonia a chronic character; the period of incubation as well as the symptoms of the diseases verifying such to be the case; and the more acute the symptoms are the fewer the cases of cysts, whereas in a large majority of cases that during life the symptoms of pleuro-pneumonia are not well marked after death the cysts are found in their lungs. Thus the formation of cysts in contagious pleuro-pneumonia does not occur when the inflammation of the lungs approaches an acute character, being only formed when the inflammation is unusually chronic; and referring to the formation of other cysts, they also do not occur in the acute stage of inflammation, but invariably take place in the subsidiary, chronic or reparative stage; as in the case of foreign bodies in various tissues, organs and muscles, when they are becoming encysted, acute inflammation is not present.

External and internal influences cause inflammation of the lungs. By the former interfering with the action of the skin, particularly the sebaceous exudations, thereby preventing its important assistance to the respiratory organs so as to produce overtaxing of the functional capabilities of the lungs; also noxious inhalations; whereas by the latter the organs are acted upon by agents in the system being eliminated by the lungs or lodged in them, thereby irritating the tissues, or making them a habitat for their development. The first are causes of the ordinary acute inflammation of the organs, whereas the latter is the case in contagious pleuro-pneumonia, it being due to organisms which may be taken into the system by the lungs only; but owing to our present limited knowledge of the subject not revealing to us the characteristics of the organisms of pleuro-pneumonia, especially during the period of incubation, which varies from weeks to months, it would be mere supposition to state that it is or is not taken into the circulation, or that it is located in the lung tissue. However, it is certain that after a period (at present undefined) the lungs become affected, and it may be assumed that at this stage of the disease the microbes are being eliminated from the lungs, or they have made the organ a habitat for their active development. Under either circumstance they irritate the organ, which is indicated by the animal having a slight cough. At first when the cough is noticed the irritation is so limited that, on *post-mortem* examination, without the aid of the microscope the change is not visible, but as the disease advances the cough is severer, the lungs becoming slightly congested in patches which gradually become consolidated; and the closer and more rapidly they are formed the greater the irritation. When they coalesce, and the greater the extent of the coalescence the quicker the disease advances, and the more certain the fatality. The reverse to the foregoing takes place in the cases where cysts occur; and, from analogy, the formation of cysts may happen in pleuro-pneumonia from the inactivity of the circumscribed congested parts acting as foreign bodies which are encircled by chronic inflammatory products, just as a nail or any other extraneous substance would be. But as foreign bodies are not usually encased, and may only take place when the subject is one of that peculiar diathesis, or the alien substance for some reason not satisfactorily explained, does not cause the destructive process of inflammation attending most cases where a foreign body has been introduced. Therefore a feasible solution of the formation of cysts in pleuro-pneumonia is—Firstly, the affected animal's system may resist the irritation set up by the organism by encircling it with white fibrous tissue; and

Secondly, attenuated microbes may produce consolidation—encased as already described. These two explanatory probable circumstances may combine. The constitution of an animal may weaken the microbes, and the attenuated organisms be again introduced into a series of similarly constituted animals, which further weakens the microbes until they are rendered incapable of causing the disease in an acute form; and the fact that when cysts do occur the disease has much decreased in its virulency supports this theory, and is elucidated by the study of bacteriology.

Thus when deciding, from *post-mortem* appearances, whether an outbreak of contagious pleuro-pneumonia is of a virulent or mild type—provided the foregoing hypothesis be correct—the character and percentage of cysts discovered much facilitate in arriving at definite conclusions.

PROFESSOR WILLIAMS AND INOCULATION.

By PRACTITIONER.

Referring to Holland, where pleuro-pneumonia has by legislative action been exterminated, Professor Williams, in his inaugural address, seems to credit the result to inoculation. Unfortunately, some agricultural papers have accepted this notion and fancy that the figures he gave support his conclusion. He says inoculation was made compulsory in that country in 1878, and then makes a comparison of the losses prior to that year and after it. His statement is—that in the seven years prior to 1878 there were in Holland 20,918 diseased and 4,383 suspected animals; that in the ten years following 1878 the numbers were 1,265 diseased and 8,400 suspected.

It is very important that just now we in this country should know the truth about the results of inoculation in other countries. If Professor Williams be correct in his suggestion that inoculation has assisted the Dutch to clear their country we might here adopt similar measures. I have not been able to trace the authenticity of the Professor's figures, and I find that the last annual report of the Agricultural Department absolutely contradicts them. The correctness of the figures in the Report are vouched for by the Dutch Veterinarian, M. Lameris. From this source I find that compulsory inoculation of cattle in contact with diseased ones was enforced not in 1878 but in 1875, and that compulsory slaughter of all diseased cattle had been in force since 1871. The loss during those years is also stated, but whether the gradual reduction was due to the slaughter and isolation or to the additional use of inoculation is not apparent. In 1874 the loss is given as 2,414.

In 1875 (the year inoculation of suspected animals came into force) the loss was 2,227 and only a slight further reduction appears next year. The Dutch do not seem to have considered the measures adopted sufficient, and so in 1877 we have compulsory slaughter of the whole herd enforced. From this date the disease declined until in 1886 only one case was discovered, and that is said to have been in an animal smuggled across the frontier. I do not say that inoculation may have not had some effect in assisting the stamping out of the disease, but I do say we have no evidence of it. During the whole time inoculation was employed it was accompanied by slaughter of diseased animals and isolation of those which had been in contact. From 1875 to 1877—the period during which such measures were employed—the reduction of the disease was slight. Only after compulsory slaughter was enforced (leaving no animals to inoculate) did the disease rapidly decline and ultimately disappear in 1887.

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doubt upon its correctness. Says the *Field* writer, "From *post-mortem* appearances the disease was taken to be anthrax, and the presence of bacilli in the blood, especially in the blood of the spleen, afforded some support to that view. It was admitted that the rods which were found were not typical anthrax rods, but, as we remarked at the time, exactly the same forms of rods as those which are found in swine which have died of anthrax from eating the offal of cattle or sheep dead of that disease; in fact, the preparations which we saw reminded us forcibly of anthrax of the pig."

It will be remembered that Dr. Adami inoculated rabbits from the spinal cord of one of the deer and that death from rabies followed. but it appears other and similar experiments performed by Professor Horsley did not afford any evidence of rabies. The symptoms detailed were very similar to those shown by the deer in Richmond Park, but they are not vouched for by any reliable observer. The *Field* expressly says "the animals do not attack each other; in fact, the rule seems to be that they are found dead in different parts of the park, and that is all that can be learned about them," and adds, "Since the outbreak of the disease among the deer at Ickworth in June, a similar disease in another herd has come under our notice; and a report of its appearance in a third herd has reached us."

The owner of the deer seems to have given no assistance for any thorough investigation, but it is to be hoped that in the interests of science the nature of the disease in all three herds may be investigated and defined.

ODDS AND ENDS.

By H. Thompson, Aspatria.

Matters that are brought before the members of an Association like this, generally speaking, embrace only one subject, and to make a paper of sufficient length and at all entertaining, a great deal of supposition and extracts from text-books and other sources must enter into their composition. My reason for bringing these oddities before you is in the great hope that other members will look back into memory's labyrinth and give us the benefit of those odds and ends which are not found in our text-books, but which I feel certain cannot fail to be both interesting and instructive.

With your permission I will now introduce my first subject.

Clay-like Concretions (Sebaceous) in the Fossa Navicularis causing Lameness in the Glans Penis of the Horse.

My first case was that of a valuable five-year-old hunter, belonging to Mr. Wm. Norman, late of Hallbank, Aspatria, which occurred about twenty-five years ago. The horse had been out for exercise in the morning, and the groom on going into the box about ten o'clock, found him standing as if in the act of staling. He watched him for some time, but the horse never altered his position, and on trying he failed to move him. Mr. Norman was informed, and I was sent for. On my arrival, about noon, I found the animal in the same position, and tried every means, but could not make him bring his hind legs under him. He paddled round the box showing no pain, only seeming to have no use of his hind extremities. I could not tell what was wrong. I therefore got some warm water and soap and examined per rectum, but found nothing. Then I washed out his sheath, drew the penis, and found two large clay-like concretions in the fossa pressing against the meatus. They seemed to have been slightly displaced, and with a little manipulation I got them removed, when to the surprise of Mr. Norman, myself, and those present, the horse pulled up his legs and walked round the box as if nothing had been amiss. I had him trotted out—he went all right. Mr. Norman was as much delighted as myself, and we finished the day with one of the best runs I ever had with the Cockermouth Beagles.

The second case occurred a few years after, in a half-bred carthorse belonging to Mr. Edward Kirkhaugh of Aspatria. This animal had been out ploughing all day, and when the foreman was looking round at night, he found the horse standing with his hind legs stretched back and the fore ones extended in the opposite direction. He could not get the horse to move his hind extremities, and when I was called in I found the same symptoms as already described in the preceding case. I examined the penis and found the fossa navicularis full of clay-like concretions. I removed them, when the horse was all right immediately.

The third case occurred last December in a strong aged waggon horse, belonging to Mr. Henry Graves of Aspatria. This animal was a very powerful and willing worker, and all the heavy lifts were put on him. When I called, he was lame on the near hind leg, which had a peculiar dragging swing, but at the same time he was passing urine mixed with blood. When caught and kept, his water coagulated the same as blood. Thinking the horse had lamed himself in some of his heavy lifts, I ordered him rest and soft diet, giving him Turpentine ʒiij and Linseed Oil ʒxx, this being followed up with twenty-five ♏ doses of Nitro-Hydrochloric Acid Fort., night and morning. I sent a sample of the urine to Professor Williams for examination, and he reported the presence of blood corpuscles and oxalate of lime crystals in large quantities. I examined per rectum, but was unable to find any cause, so I decided to pass the catheter. On grasping the penis, I found the near side and front of the fossa full of the concretions, while the off-side was clear. I removed these and next day the horse did not show the least bit of lameness. He had then been under treatment for ten days, and it had been decided to turn him out as the bleeding still continued, but I persuaded them to let him have another week inside while I gave him the following, night and morning:—℞ Ferri Sulph. Exsic ʒj; Sodæ Chloridi ʒiij; Pulv. Fenugreek ʒij mixed in boiled barley. In four days the bleeding ceased, the horse was all right, and has continued so to this day.

Read at a meeting of the Border Counties Veterinary Medical Society, on Friday, Nov. 8th, at the Bush Hotel, Carlisle.

My last case was a carriage horse, the property of Mr. Wm. Wilson of the Keswick Hotel. This horse had been lame for some time and was turned out to grass. When I saw him he could not put his off hind foot to the ground and went on the other three, sticking his off hind leg out sideways. This I examined from top to bottom and also per rectum, removed the shoe, but could find nothing. I then washed out the sheath, drew the penis, and removed a large concretion from the fossa. In a few days the horse was going sound, but the long-continued pain had caused the muscles of the quarter to waste a little. At all events the second time I saw him he let out at me with both hind legs when I attempted to touch him, and trotted away all right.

My opinion is that all these cases are due to a peculiar reflex action. I remember when I first entered the profession reading in some medical book about little boys putting rice into their urethras. The rice, swelling, caused a peculiar inability to move the legs.

The next case I will bring before you is:—

Obstruction of the Vermiform Process on the Penis of a Tup.

This animal also belonged to my friend Mr. Norman and was of the 'Longwool' or 'Lincoln' breed and a very valuable one, having cost sixty-five guineas a short time previous. Mr. Norman had for about a fortnight been feeding his tups on mangold wurtzels when the animal in question was found to be ailing; was walking about, lying down, getting up, and constantly straining and paining, seemingly wanting to urinate. This went on for nearly a whole day when I was requested to see him. Before my arrival the animal had been put into a hot bath in a dipping tub. A purgative combined with Opium had also been given. I found the poor brute in great pain with belly much distended, and from under the anus, all along the perineum, was greatly enlarged. Fortunately, a short time before this, I had read a paper by Mr. Litt, of Shrewsbury, on the feeding of tups and wethers on mangold wurzel, and his description of the cases were identical with this. I had the tup cast on his side and drew the penis when I found the vermiform appendage distended, red, and like a piece of whipcord. I cut into its base with a lance when some white crystals and a quantity of urine escaped, in fact the latter came with such force that I was nearly blinded. The animal was let up when he passed an immense quantity of water. We put him down again, and after a deal of work I succeeded in pressing out of the opening I had made all the white crystals, and finally passed a small silver wire all the length of the process. The tup did well and proved a successful stock-getter for two years after. Mr. Norman had several cases, some recovering and others being slaughtered. The urethra in many instances was entirely blocked up with the crystals, which on testing were found to be Ammonio-Magnesian Phosphates. Since then, gentlemen, I have seen a number of these cases, both in tups and wethers, but more particularly in those folded on turnips which were grown with Superphosphate of Lime; and strange, but true, the best preventive of this is to place all up and down the field branches of common fir tree. The sheep eat the bark readily, which somehow prevents the formation of the crystals.

Gut-tie in a Bullock.

In the Spring of 1866—Rinderpest year—I was called to see a two-year-old shorthorn bullock belonging to Mr. Barwise of Edderside Hall. He had been ailing for two days, but as rinderpest was only two miles away, my employer was afraid to obtain medical assistance. The animal had got large quantities of purgative medicine, such as Epsom Salts, Linseed and Castor oil, with no effect. When I saw him he was standing calm and quiet and the expression on his face was thoughtful, when, all of a sudden he would take a few steps forward quickly, then stop, twist his tail, and make efforts to pass fæces, but only a little bloody mucus was voided. I had him taken into the field and watched him a long time He would walk quickly back and forward, stop, twist his tail, cross his hind legs, and when near a bank would back up with his hind feet till they were at the top with fore feet at the bottom. This position seemed to give him immense relief. The case went on for three days, and my diagnosis was *gut-tie*. The owner was anxious to get him well, so I proposed cutting into the right flank to try and reach the obstruction, but before operating I introduced my hand into the rectum to try how far I could reach. When working it along I felt a cord outside the intestine about the thickness of a lead pencil and seven or eight inches long which ran upwards to the psoae muscles, the other end being attached to some portion of the bowel. This cord seemed to hold a large amount of intestines in a loop. I deliberated what to do, and finally tried to break the cord through by twisting my fingers round it. Of course the coats of intestine were between my hand and this cord. After the third tug it gave way, when the bowels dropped into the bottom of the abdomen. The animal gave a sigh of relief, walked up to a bench, then commenced feeding, and within four hours his bowels were freely opened. The bullock did well, and twelve months afterwards was sold for forty-two guineas.

Abscess in Sinus of the Horn of a Bull.

This case occurred about the same time as the preceding one. The bull was a very valuable shorthorn belonging to the late Mr. Blackstock of Hayton Castle. It was with the greatest reluctance that I was allowed to touch the animal on account of the cattle-plague. After convincing Mr. Blackstock that I had not been near any rinderpest, I examined the bull and found the respirations quick, the animal perspiring freely, eyes injected, and nose poked out. He held his head to one side with an occasional shake. The pulse was full and bounding. On grasping the horn, which was very hot, the bull suddenly dropped at my feet with mouth wide open, tongue protruding, and bellowed out as if in a fit. He was soon on his feet again and shaking his head a great deal. After careful examination I came to

the conclusion that the bull had an abscess in the sinus at the base of the horn. The constitutional fever being very high I drew blood to the extent of six quarts and gave a good saline purgative; in fact, treated the symptoms; also applied a large woollen cloth wrung out of cold water to the horn. Next day with a half-inch gimlet I bored a hole into the base of the horn and enlarged the opening with a fine pointed shoeing knife when a large quantity of matter made its escape running over my hands and down the bull's face. The case did well, but the horn turned or bent right over where I had made the opening. The bull lived for several years afterwards and was very serviceable, going under the name of "Bates' Duet"

Abscess above Rectum.

Several years ago I was called to see a black horse, the property of Mr. Edward Kirkhaugh. The parts round the anus and root of the tail were very much swollen, very painful and tender to the touch. I fomented the parts well, and after some considerable time with the aid of a little lard I introduced my hand into the rectum, which was impacted with fæces, and was finally emptied by the aid of injections of warm water. On exploring the parts I found a large fluctuating tumour above the roof of the rectum and a small depression or ring which passed through into what turned out to be an abscess. With great difficulty I passed my abscess knife, enlarged the opening, and had a good flow of pus into the rectum. On questioning the stableman he said that about ten days before when bedding him up, the horse had knocked the fork out of his hand with his tail, the fork turning right round and one of the prongs entering his anus. Be this as it may, I was of opinion that some sharp instrument had been pushed into the parts. The horse ultimately did well.

Hole in Rectum of Cow.

I was called one night to Mr. Hall's of Greengill to a cow which I found straining and paining as if she was calving. On enquiring into the history of the case I was told that she had been calved about three months, and had not been served again. I examined the vagina as far as I could, then introduced my hand into the rectum and emptied it, but could find no distension nor anything abnormal. The uterus, vagina, and bladder seemed all right, but on manipulating round the inside of the rectum I suddenly passed my finger through a small opening on the upper side, which turned out to be recently made. A quantity of bloody serum escaped into the intestine and was expelled per anus. I ordered her an opiate every twelve hours with twelve ounces of Linseed oil and examined her every second day for a week, when she quietly settled down and got all right. My opinion was that some malicious party had shoved a sharp pointed stick into the bowel.

This brings me to two cases of

Pelvic Abscesses.

The first was a well-bred shorthorn cow belonging to Mrs. Senhouse of Netherhall, Maryport, and which my son, the late J. F. Thompson found in his round. The animal was straining very much, arching the back, and twisting the tail as in parturition, but having recently calved that could not be. He examined her per rectum and found a large bladder-like distension in the right side of the pelvic cavity, extending over the pubic brim into the abdomen. I went with him on the following day and found a large pelvic abscess. After careful examination, I passed a large trocar and canula through the side of the vagina into the tumour, and by pressure with the hand in the rectum succeeded in emptying the abscess of a large quantity of pus. I washed the parts well with warm water and Tinct. Ferri, attending the case for about three weeks, when it progressed favourably and finally did well.

The second case was a cow, the property of Mr. Robt. Ellwood of Crosscanonby Hall, showing symptoms as if set at calving. On examining per rectum I found a bulky substance, and on passing the left hand into the vagina the enlargement was found to be situate between the roof of the vagina and floor of the rectum, and fluctuating very much. I passed the trocar through the roof of the vagina into the abscess and had a good flow of pus.

I then injected a quantity of warm water and Tinct. Ferri into the cavity. The cow did very little good, the shock seeming to affect her a great deal as she never afterwards laid on much flesh.

Abscess in Bladder of a Cow.

This cow, of the Dutch breed, belonged to Mr. Norman. Some time prior to being called she had been set at calving, with a breach presentation: the hocks of the calf being jammed against the brim of the mother's pelvis. About six weeks after the cow dropped off her food, and did nothing but strain, pain, and pass urine in dribbles. On rectal examination a large distension was found, which proved on manipulation to be in the bladder. The meatus urinarius was quite relaxed, and the finger could be readily passed into the bladder, when a hard substance was touched. With right hand in the rectum, the left in the vagina, and forefinger in the bladder, the abscess could be distinctly felt. I first passed a small female catheter, when a little pus escaped. Next a large canula was passed over the catheter, using the latter as a director until the canula was inside the bladder. The catheter was then withdrawn and the trocar passed and a good opening made in the abscess, which was soon emptied of its contents. The bladder was well injected with Tinct. Ferri and water. The animal eventually made a good recovery.

This leads me to another case which I will call

Pelvic Hæmatoma.

This was in a cow owned by Mr. Wm. Nixon, of Baggrow, which had been about three months calved when she exhibited all the symptoms of parturition. An immense enlargement could be found from the rectum on the left side of the pelvic cavity. I tapped it through the left and upper side of the

vagina and met with a disappointment, as only a small quantity of blood serum escaped. On again passing the hand into the rectum, the tumour was found to extend right into the abdominal cavity, pressing the intestines to the right side. I withdrew the canula, introducing my left hand and passing the forefinger through the opening already made, with a little force tore down the parts till I got a second finger in, thus enlarging the opening sufficiently to pass the hand, when about half a pailful of clotted blood was removed. I next washed the cavity well out with Tinct. Ferri and warm water, and as there was a slight hœmorrhage I inserted a plug of tow saturated with Tinct. Ferri solution, which was allowed to remain for a few days. After a few more dressings the cow did well.

Bone under Cow's Tongue.

Some years ago I was called about midnight to a case of colic in a horse. After administering a draught, the owner asked me to look at a cow that was not doing well. She had a large tumour under her lower jaw, which had a peculiar pasty-like feeling. On enquiry I found the enlargement had been there seven or eight weeks, and that the owner and a few local celebrities had blistered it three or four times. I laid the tumour open, when a quantity of pus mixed with chewed food escaped, showing some connection with the mouth. On putting my hand amongst the teeth I found a peculiarly-shaped piece of bone fixed on the inner side of the gums of the right lower jaw. One portion of the bone was under the tongue, the sharp edge having worn through the integuments in the act of mastication, while the upper portion of the bone overlapped the tongue and teeth. The bone is well marked by the grinding of the animal's teeth, both on the upper and lower portions. I pulled the bone out, to the great astonishment of the owner, and the cow seemed relieved and soon did all right. (Bone exhibited).

Fracture of the third molar tooth in both sides of the lower jaw of a stirk.

Some time ago I was requested to see a yearling stirk at Mr. Miller's, of Mealug. The animal was standing calm and very thoughtful. The eye was bright, and general appearances good, while the nose was poked out and drooping, and a considerable amount of clear saliva flowing from the mouth. I was informed that the stirk had neither eaten nor drunk anything for a full week. I examined the mouth and found a quantity of chewed food sticking inside of the cheek and over the third molar of the lower jaw. On removing it I discovered that the tooth was split, and the lower part of the inner portion was still fast in the jaw, while the upper part was embedded in the substance of the tongue. I pressed the tongue to one side and removed the splintered tooth. On examining the other side, strange to say, the same thing had occurred there, the tongue being transfixed on the two broken portions. This I also removed and the patient went right ahead.

(Teeth exhibited).

Calculus in Urethra of Pony.

One morning an old woman who made her living by carting called at my door with a pony. Immediately she stopped the pony stretched itself out as if to stale, which it had previously made several unsuccessful attempts to do. I had it taken from the cart into my yard, and examined the penis, when I found a calulus sticking at the end of the urethra. So firm was it fixed that I had to make an incision into the passage before I could get it removed. The pony immediately passed a large quantity of urine.

(Calculus exhibited).

Gall-stone in the Biliary Duct of "Best Returns."

This was a thorough-bred stallion belonging to Mr. G. T. Carr, of Silloth Farm, and was taken ill about 7 p.m. on the 15th February, 1879. He showed great pain, getting up, lying down, etc. when the groom gave him a colic draught, and bled to the extent of about two quarts. Getting no relief, Mr. Briggs, V.S., of Darlington, who was then stationed at Silloth, was sent for, and administered Opium and Ammonia, having hot water rugs constantly applied to the abdomen. I was next called, and on my arrival about midnight found the horse slightly relieved, having passed some flatus and some thick highly-coloured urine. As the pain occurred at intervals, hot poultices were applied to the loins, and tobacco enemas were administered. I also gave ʒvi. of Aloes in solution, ʒxxv. Ol Lini. The horse had a peculiar way of standing, first one hind leg and then the other projecting backwards. This peculiarity lasted all the time the horse was ill, the near hind leg generally crossing the off one over the head of the cannon bones. Enemas and anodynes were given as required till the 17th when the bowels were relieved, a quantity of mucus-coated fæces being passed, and urine very highly coloured being frequently voided in small quantities. He kept on fairly well, feeding a little, and occasionally showing colicky pains, the pulse always irritable and eyelids injected, until the 5th of March, when I was again called in and found him hanging his head and walking round the box with an unsteady gait and pressing his head in a corner—in fact he was like a man blind drunk. Pulse 60, full and strong, mucous membranes highly injected, fæces in small hard pellets and light coloured; little or no urine passed, and at times quite unconscious and dangerous to approach. In fact the symptoms were identical with those of Uræmia as described by Williams in his P. and P. of Veterinary Medicine. We concluded the animal was suffering from this affection. We bled him to the extent of eight quarts, and as his jaws were so tightly fixed that we could not administer a ball, we cast him and gave a draught of ʒv. Aloes in solution, ʒiss Calomel, and ʒxx. Ol Lini. Poultices were applied to the loins and Potas Bromide and occasionally Potas Bicarb were put in the drinking water. The walls of the box were padded with sacks of straw, and cold water applied to the horse's head. He continued in this condition, sometimes better and sometimes worse, till the 18th, when he succumbed. On making a *post-mortem* we

found the kidneys very soft, enlarged and pale, but the great cause was a large gall-stone in the hepatic duct about half-way between the liver and the intestine. It was about the size of a pullet's egg, of a beautiful canary colour, made up of concentric layers of about $\frac{1}{8}$in. thick. It was very delicate to the touch, the least pressure causing it to fleece off. I am sorry I haven't got the specimen to show you, but somebody thought they had a better right to it than I had, so relieved me of it.

Cows Poisoned by Arsenic.

On Monday, Sept. 4th last, Mr. Wm. Barnes, of Mawbray House, asked me to go and look at two heifers that were ailing. In order to make the case clear I will class them Nos. 1, 2, 3 and 4.

No. 1 had been noticed on the Thursday previous to be very dull, off its food, and suffering from extensive diarrhœa, when a dose of Linseed Oil, Ginger and gruel was administered. No. 2 commenced on the Saturday, with similar symptoms. On my seeing them on Monday morning No. 1 was standing very thoughtful, hair on end, nose dry and dirty, with watery discharge from the eyes which coagulated on the face and round the eyelids; and every now and again she moaned slightly. The belly was flat, breathing tranquil, diarrhœa very extensive, temp. normal and pulse about 60.

No. 2 showed similar symptoms, except that it was very excitable, wandering round its box. Hair was sleek and otherwise the same as described in case of No. 1. The other two animals which had been grazing with them were in another box, but seemed quite well. Judging from the symptoms I considered the animals had got cold which would soon pass away. Nature relievingherself by the spontaneous diarrhœa I ordered Tincture Ginger and Chlorodyne of each ʒi, Ol. Lini ʒx exery ten hours. I was called again on Wednesday and found that No. 2 was dead and No. 3 had commenced with diarrhœa, while No. 4 was very dull. On enquiry I was told that No. 2 died on Tuesday night, but for three or four hours before death she had suffered great agony, wandering up and down the box like some mad thing, perspiring, breathing heavy, lying down and getting up, diarrhœa extensive and mixed with blood. Finally she dropped on to her belly and died suddenly. I made a *post-mortem* and found the epithelium in the 1st, 2nd and 3rd stomachs peeled off readily, the papillæ in the manifolds were very red and inflamed, while the fourth or true stomach was very much inflamed and thickened throughout, containing a quantity of bloody fluid mixed with a little food. On the mucous surface was a vast number of petechial spots of various sizes, and about a foot of the duodenum was in the same condition. The rest of the small intestines seemed quite normal until about three or four feet before it enters the cœcum. There it was as intensely inflamed as in the stomach. I came to the conclusion that the animal had died from some irritant poison, and after making enquiries examined the pasture, when I found some planks floating in the watering troughs. These were some old skirting boards taken from the house during repairs. It flashed across my mind that I had discovered the cause, as I remembered when I first went to the drug business I used to mix large quantities of soft soap and arsenic which was rubbed on the back of the skirting in order to destroy vermin. No. 1 died that night exhibiting the agonizing symptoms of No. 2 before death. *Post-mortem* revealed almost identical results.

No. 3 and 4 were ordered large quantities of milk and linseed jelly and they recovered. A portion of the stomach and contents from No. 2 were sent to an analytical chemist who detected Arsenic in abundance. On further search a tin of arsenical sheep dip was found in a rubbish heap, and some of the servants had seen the animals licking the tin. Here then was the cause. This, I think shows that Arsenic does not show its real poisonous effects till it enters the fourth stomach.

And now Gentlemen, I am afraid you will have been wearied with my oddities, but I hope they will be an inducement for a few more odds and ends to be brought before the Societies. And may they be of mutual benefit is the earnest wish of yours truly.—H. T.

VETERINARY MEDICAL SOCIETIES.

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MUSCULAR LESIONS IN THE HORSE.

By Thomas Walley, M.R.C.V.S.
Principal of the Royal Veterinary College, Edinburgh.

(Continued from p. 232.)

Having glanced at the derangements and disorders of muscles in a general sense, I propose now to devote a short time to the consideration of what is of the greatest importance to us as veterinary surgeons—viz., strain and injury of particular muscles or groups of muscles—and in doing so I shall direct attention only to those which have come under my personal observation; and I would further observe that in some cases the locomotory symptoms are so remarkable as to enable us to make a positive diagnosis from the character of the lameness or halting alone, and I say this notwithstanding the statements that have from time to time been made by practitioners to the effect "that no lameness is diagnostic." For convenience sake, I shall commence with muscles of the anterior part of the body and of the fore-limbs.

(1) Injury to Trapezius & Rhomboideus Muscles.

A rare lesion, occasionally seen in cart-horses from injury by bad fitting and clumsy saddles or collars.

The first case seen by me was when I was a pupil with Mr. B. Kettle, F.R.C.V.S.

The lameness may be great; it is, however, more of the nature of defective action from inability to

elevate or draw up the dorsal or cervical angle of the scapula. There is usually some swelling and pain on pressure, though it is very likely to escape detection from the unusual nature of the case, and, if on the right side, from its being covered by the mane. Forcible abduction or elevation of the limb produces manifestations of pain. It may be followed by atrophy; but this is of comparatively little consequence, as loss of function in these muscles does not interfere materially with motion.

(2) The Levator Humeri.

Strain and injury to one or both of these muscles is of frequent occurrence in harness horses—never, in my experience, in saddle horses—and is produced by undue and unequal pressure of the collar, owing to sore shoulders, or to unequal length of the traces: bad driving, or driving badly-balanced vehicles over rough roads, by ill-fitting collars, and by crushing in making violent efforts to lift a load.

The symptoms of injury are seldom observed until important tissue changes have resulted; but occasionally heat, pain, and tenderness, with inability to elevate the shoulder are noticed, and if proper treatment is had recourse to, these symptoms pass off without any permanent damage resulting; but in the majority of instances the attention of the veterinary surgeon is not drawn to these cases until a tumour (generally supposed to be of a fibroid character) is formed in the muscle. This tumour may, by proper treatment, such as the application of blisters or of iodine preparations be dissipated; but, as a rule, it continues to increase in size until the animal is rendered useless. Some years ago I discovered that deep puncturing tended to bring about absorption of these tumours; but in the course of my experiments in this direction I also discovered in one instance the existence of a small quantity of pus deep seated, and, in every instance now, when such tumours are brought under my notice, I make a deep exploratory puncture with the object of discovering pus, and, if it be present, I seldom blister or seton, but adopt one of two courses—(1) evacuate it by a deep incision, (2) inject one or two drachms of iodine tincture into the cavity of the abscess. The latter treatment has the effect of producing rapid softening and spontaneous evacuation of the pus, followed by absorption of the new tissue. If I fail to find pus I irrigate the tumour deeply and freely with iodine tincture, and repeat the irrigation at intervals of a few days until symptoms of softening make their appearance.

I exhibit for your inspection the syringe I generally employ for the purpose of irrigation Very exceptionally sloughing of the tumour follows the irrigation.

(3) The Pectoral Muscles.

Strain of one or both of the anterior pectoral muscles is occasionally met with, and inasmuch as it is nearly always accompanied by physical symptoms, and by more or less difficulty in using the fore-limb or limbs, is easily diagnosed.

I have never seen any important change except a little atrophy follow this strain.

Strain of the tranverse pectorals is a very rare lesion, and is usually caused by the limb being violently abducted. The locomotory signs are difficulty in bringing the leg forward, the action being of a *reaching* character.

If the muscle is grasped, it will be found that it is somewhat enlarged, hard, and tender. Permanent ill results do not follow this strain.

(4) Sprain of the Spinatus Muscles.

Either or both of these muscles may be injured, most frequently the posterior. The injury may be uni, or bi-lateral, most frequently uni-lateral; it may occur in any class, age, or breed of horse, though most often seen in draught colts up to three or four years old.

Causes may be protracted or sudden. In some cases it is produced by some sudden injury; in others the cause is in operation for a long period without any evidence being given of such a lesion taking place—in other words, its approach is insidious. The most frequent causes are, inordinate and persistent strain produced by unequal or spasmodic traction, or some sudden jerk. It is sometimes caused by ill-fitting collars and sore shoulders, the pressure being placed on the shoulder to which the collar fits best, and in which it produces the least pain—unequal draught by shortening of one of trace produces it in the same way, *i.e.*, by throwing the work on to the one shoulder. In horses used in reaping machines, or in thrashing, stone, clay, or other similar machines, and constantly turning in a circle (rotary motion), and in horses used in the plough in small fields, where the shortness of the furrow necessitates frequent turning, and where the ground is full of boulders, or very hard, it is frequently produced by the traction being unequally exerted and spasmodic, and by concussion from the plough striking the boulders; the horse which suffers (in the case of pairs) being the outside one, and the shoulder the outside one also, because on this the greatest amount of work is thrown whilst turning. In some cases the injury is produced by the ploughman constantly jibing his horses, and carelessly digging his plough into the ground at the headlands.

It is generally believed that in plough horses it makes its appearance in the one which traverses the furrow—from one leg being in the furrow, the other on the unploughed land, and, while acknowledging that young horses are at first obstreperous, I must confess that in my experience of them the great majority of them soon settle down, and traverse the furrow like old horses. I do not deny that such a cause may be in operation; but in the whole, the other causes I have mentioned are the most likely to produce it. With regard to young animals, it must not be forgotten that their tissues are only in process of formation, and consequently are easily injured, and their nutrition readily interfered with. Moreover they cannot control their movements like adults.

Symptoms.—If the injury is sudden and severe—the usual symptoms of inflammation with lameness are observed, though the lameness is not so well marked as in strain of other muscles, as their function

is not an important one, and their action (from their peculiar formation and shape, and from the existence of numerous other muscles having similar action) is limited; they are, in fact, simply bracing muscles. After a time the diagnostic symptom, atrophy, makes its appearance; the tendinous terminations become elongated, and in the case of injury to the posterior muscle, the inferior extremity of the scapula may slip slightly inwards. It cannot go far because of the sub-scapularis, neither can it go outwards on account of the external trochanter of the humerus.

In the case of the anterior spinatus the scapula may go backwards or forwards; but even here it is held in its place by the flexor brachii, the scapulo-humeralis-posticus and sub-scapularis, and the trochlea presents a barrier to its forward luxation.

When atrophy commences, lameness diminishes; in fact, there is an entire absence of lameness in many cases from the outset though there may be defective action and inability to lift heavy loads. As the atrophy proceeds, an elongated furrow or depression before or behind, or on both sides of the scapular ridge, is produced, and the ridge, with its tubercle, becomes plainly defined. It must not be forgotten in giving an opinion, that these muscles also waste when the animal is standing idle with foot or leg lameness. Partial laceration, or severe strain of the external tendon of the posterior spinatus muscle is diagnosed by, the existence of pain in the seat of the tendon.

(5) Flexor Brachii.

Injury to the flexor brachii may or may not be complicated with injury to the trochlear bursa, or to the scapulo humeral articulation. Either or both are very serious complications, and always diminish the chances of recovery. From its superficial position the trochlea bursa is more likely to be involved than the articulation, the latter being by no means, so directly exposed to injury as the flexor brachii muscle and the trochlea. The coraco humeralis may or not be involved.

The seriousness of the injury will always depend upon its extent; but it is of more serious import than is laceration or contusion of most of the other muscles of the body, as its structure renders it prone to take on fibroid and ossific changes; in either case —its action being mechanically interferred with— permanent incapability to extend the limb is the result.

The great danger arising from the involvement of the trochlea is the establishing of inflammatory changes in the cartilage, leading to ulceration and attrition of the trochlear surface.

Causes.—Are usually direct violence, as anterior or lateral blows or kicks; animals running away and coming in violent contact with fixed prominent objects; tripping up with heavy loads, or while going down hill, and striking the point of the shoulder violently on the ground, or against kerb-stones; striking the shoulder against embankments in leaping; horses cannoning against each other in galloping, racing etc., and violent straining, usually brought about by inordinate attempts to move extraordinary weights, especially if all the force is brought to bear upon one shoulder, as it is in cross-drawing (traction).

Extensive injury is likely to be inflicted upon this muscle in the fœtus by the employment of great traction at parturition.

Symptoms.—Are those of ordinary shoulder lameness, with thickening and great pain on pressure in the course of the muscle, inability to progress in a forward direction the toe being dragged; excessive lameness when the weight is placed on the limb, if the triceps muscle be involved, knuckling over the fetlock joint; the animal backs with moderate ease, and turns fairly well to the side of injury, but with pain and difficulty to the opposite side as the muscle is an adductor. After a time, atrophy of the scapular and scapulo ulnaris muscles is sure to take place to a greater or less extent.

Treatment.—Antiphlogistic at the outset, followed by blisters, and above all, setons inserted under the skin over the course of the muscle if the lameness does not pass off.

(6) Injury and Laceration of the Caput Muscles.

May arise from animals getting their legs fast in hurdles, gates, or—when on board ship—between stanchions, divisions, &c., and struggling violently to free themselves. The injury may also be caused, or, if already produced, aggravated by animals getting down on board ship during storms, or in railway trucks when shunting, and other animals trampling upon them; in this case the upper leg suffers. Three such cases occurred in one cargo of Iceland ponies which came under my notice. The local physical symptoms usually are entirely negative; there may or may not be swelling and tenderness of the parts. In this respect it resembles shoulder slip. There is sure to be partial or total immobility of the limb, in the latter case the animal will obstinately preserve the recumbent posture. When the animal moves, the leg is thrown or flung forwards with a rotary movement, and the foot brought with tolerable firmness to the ground; but when weight is put on the limb it yields in a forward direction—there is, however, no actual lameness. This distinguishes it from strain of the flexor brachii, but it is liable to lead to the conclusion that there is injury of the extensor pedis. When the animal is standing the leg yields forward.

The negative symptoms are—absence of swelling, heat, tenderness, or displacement of any of the muscles, tendons, or ligaments of the arm or leg.

The best positive symptoms—if present—is alteration in the form of the caput muscles—depression or swelling, with heat and pain on pressure over the part.

In the course of a few days, atrophy of the injured muscles commences, and in a short time a hollow is left similar to that which is seen in the front of the haunch in strain of the rectus and vasti muscles.

Treatment.—Allow the animal (after reducing by antiphlogistic measures the inflammatory symptoms —if any present) to take voluntary exercise by turning it into a field, or into a large box littered with sawdust, tan, chaff, or chips, and blister severely

and repeatedly. I would not advise, even if it could be carried out, immobilization of the limb; though slinging, especially in the case of heavy horses, may be useful.

The following case of atrophy of the caput muscles of the near fore-leg came under my observation in March 3rd, 1881.

Subject.—Brown cart gelding. eight years old.

History.—Not known, only been purchased eight days at an auction sale. On being put to work it was found by the driver that the horse was footless, knuckling forward on to its fetlock a dozen times up a short hill.

Appearances presented.—Bowed knee, straightened shoulder with prominence of head of humerus, marks of numerous contusions on the front of the fetlock, walked sound, trotted fairly so, but occasionally knuckled. Marked atrophy of caput muscles, evidently result of strain inflicted some months previously.

(7) The Flexors Metacarpii—Externus, Medius, and Internus.

These muscles, either separately or conjointly, are usually strained at a little distance above the knee. The injury is most frequently seen in hunters, and is, as a rule, produced by the horse alighting awkwardly in the drop when leaping, and it is aggravated when the rider is heavy. Lameness may arise immediately on receipt of the injury, or not for several hours. Subsequently it is characterised by inability to flex and extend the leg or the knee, and the animal resents forcible extension of the leg. Local inflammatory symptoms are always present, and on their subsidence, the parts remain more or less thickened, and the leg becomes slightly straightened.

In treatment I always have the heel of the shoe raised a little until the inflammation subsides; then I lower the heel, put a lever on the toe, and fire lightly over the seat of injury.

Lumbar and Sub-Lumbar Strain.

(8) Strain of the Psoas Muscles.

Is most frequently seen in hunters, and is produced by heavy riders sitting far back in the saddle; in leaping it may be caused by the strain put on the muscles in "taking off," but more usually by the great concussion exerted on the muscles "in the drop," especially if the drop is on hard ground and the rider heavy and clumsy. It may, also, be caused by the horse falling athwart an embankment in leaping, or from his hind legs becoming fixed in clay or mud.

In all animals it is caused by slipping of the legs in a backward direction when backing a load, or when straining during the act of parturition, and also from heavy weights falling on the loins; it may be produced by animals twisting suddenly round in a small stall, or by struggling to free the hind legs when entangled in the halter or when cast in the stall, or when cast for operation.

Symptoms must be carefully distinguished from those of spinal injury and kidney disease. They may make their appearance immediately on the receipt of the injury, but do not usually do so in the case of hunters until the following morning. The gravity of the constitutional symptoms will depend upon the amount of injury. Frequently they are somewhat grave—pulse quick and full, breathing hurried, mucous membranes injected, great perspiration and moaning, inability to progress, and in progression the limbs are moved very stiffly and with a straddling gait, the toes being more or less dragged. Animal incapable of turning, and if it does so, groans and turns very stiffly and cautiously; if the toe strike against any object, great pain is evinced. No rigidity of muscles, but pain on pressure over the loins; there is exquisite tenderness evinced on pressure being applied to the psoas muscles through the coats of the rectum; there may be blood in the urine, and it will be retained or passed with difficulty, on account of the pain caused by the animal placing itself in position; for the same reason there will be retention of fœces

The urine does not give rise to pain in its evacuation; it contains no lymph casts, nor are the kidneys tender on manipulation per rectum Some horses stand obstinately; others lie down immediately they are put in the stable after hunting, and continue to lie, and when made to arise do so with difficulty and pain.

Results are (1) sub-lumbar or psoas abscess, in which case the pain continues, and the animal emaciates, and groans on turning; the abscess may be detected by rectal exploration; (2) atrophy or fatty degeneration producing permanent interference with the action of the muscles.

Treatment.—Gentle laxatives; warm, soothing, and sedative enemas; remove fœces and urine mechanically; bleeding in severe cases; febrifuges and anodynes as required; hot fomentations and the application of stimulating anodyne liniments to loins afterwards—as belladonna and opium liniment, mustard, or turpentine—but best of all sheep skin. Animal must not be put to severe straining work for some time after the accident.

(9) Strain of the Longissimus Dorsii.

This may be uni- or bi-lateral, and the accident may occur in any class of horse.

The causes are on the whole identical with those which are in operation to produce psoas strain, and, in addition, we have the falling of heavy weights on to the back. It may also be produced by the animal rearing and falling over backwards.

Indications of the injury are, at the outset, somewhat similar to those of psoas strain, but, except that greater evidence of tenderness is exhibited on the application of pressure, are much less severe. In the course of time, more or less atrophy takes place; occasionally it is very pronounced, and several years ago I saw a case in the practice of Mr. H. Stanley, at Birmingham, in which the whole of the muscle on the left side had become absorbed.

In like manner I was asked to examine a horse which had been condemned as unsound by Mr. Cunningham, of Slateford, but in this case the original injury had been associated with an extensive wound.

Atrophy of either one or both of these muscles is a matter of great importance in hunters, or in animals used for heavy carting work, or for backing heavy loads.

(10) Strain of, or Injury to the Gluteal Muscles.

Gluteal strain is usually produced by the animal's leg slipping in an outward or backward direction, or by the inordinate traction brought to bear on the muscles in rearing or leaping, or in the act of copulation, and also in attempts to move a heavy load.

Injuries may be inflicted by heavy objects falling on the quarters—*e.g.*, a stone or large piece of coal falling from a cart laden with one or other of these materials, or a box or other heavy package slipping from the sling in the process of hoisting for warehousing purposes.

The symptoms are mainly those with which we are familiar as being characteristic of hip lameness, with more or less inflammatory swelling of the injured parts, followed by atrophy.

In the fall of last year I had a case of a lorry horse in which the right gluteal muscle was strained, and on the animal being again put to work the left muscle shared the same fate. Recovery is, as a rule, satisfactory and permanent in these cases.

Crural Muscles.

(11) The Rectus Femoris and Vasti Muscles.

Is a comparatively rare accident. I have only seen three cases, the first of which I was enabled to diagnose from my knowledge of the anatomy and functions of the muscles alone.

Causes are always extreme violence. The first case I saw was caused by concussion from the buffer of an engine; the second case I was only called to in consultation with a practitioner some weeks after its occurrence; but I was informed subsequently that the horse had been cast in the stall; the third was in a timber carriage horse, and was due to the horse falling in going down hill with a load of timber, a piece of timber striking his thigh with great violence.

Symptoms.—At first ambiguous; the most remarkable is the great and immediate loss of power, as shown by the sudden yielding of the whole limb when weight is put on it, the quarter droops, the leg is flexed to its utmost, and the animal appears as though he must fall. There is not so much dragging of the toe as might be imagined; in fact, the leg is brought forward with tolerable ease. This may be due to compensatory action on the part of the tensor vaginæ. The yielding of the limb is the great diagnostic symptom in the early stages, and it is so marked as to lead to the expression that there must be a fractured bone, or a lacerated ligament somewhere. However carefully the parts may be manipulated we may utterly fail to diagnose the case by physical signs, as unless the muscles are extensively lacerated there is no alteration in shape, and ordinary inflammatory symptoms are by no means well marked. The constitutional febrile symptoms may be excessive at the outset, and there is sometimes much perspiration; this, and the great loss of power being, doubtless, due to laceration of the crural nerve.

In the course of ten days or a fortnight, the rectus and vasti muscles commence to atrophy, and once the process sets in it proceeds apace ultimately going on to such a degree as to lead to the formation of a deep curved hollow between the patella, the outer spine of the ilium, and the femur. The patella itself stands out in bold relief, leading to the supposition that it is luxated, and I have known the skin over it to be severely blistered by a veterinary surgeon.

Treatment.—Unsatisfactory, always protracted cases. If brood mare, the defect (even if permanent) will not materially interfere with her usefulness for breeding purposes. I have seen great benefit result from the use of repeated blisters.

(12) Laceration of the Ilio-Femoral Group and of the Adductor Muscles of the Thigh.

Injury to either or both of these groups is produced by violent abduction of the limb, and is of common occurrence in the cow during the act of parturition, and in cattle which have been subjected to the influence of a storm during a sea voyage. Bi-lateral injury is much more easily diagnosed than is uni-lateral, as in the former the legs are usually spread out in "spread-eagle" fashion, and the animal is unable to gather its legs together, or to rise, but in the latter the recumbent position is of a more natural character, and very frequently the practitioner treats the case as one of paraplegia.

The injury is always exposed when the animal is slaughtered, and the carcase cut in halves; if the injury be a recent one, the laceration of the muscles is apparent, and it is associated with extensive extravasation of blood; if of some standing, the involved muscles may be softened and degenerated, and even the seat of purulent infiltration.

The lesion is known in Scotland as "Speldered."

(13) Flexor Metatarsi.

We can scarcely consider the subject of injury to this muscle without taking into consideration also injury to one or both of its tendinous divisions.

Strain or laceration is usually produced by the hind leg slipping backwards as the animal rises, in urination, in parturition, and in attempting to start a load; it is most frequently seen in frosty weather. The muscle alone, a few inches above the hock, may be injured, or, and this much more frequently happens, one of its tendons at its insertion may be strained or completely lacerated, and the division of the tendon usually injured is the one which becomes inserted into the head of the metatarsal bone.

The first case of strain of the tendon that came under my notice occurred in the practice of the Messrs. Lawson, at Manchester, and the year following I had the opportunity of seeing a case of laceration of the muscle in the practice of Mr. Cunningham, of Slateford (this case is recorded in Professor Williams' Surgery), and in both these cases I was enabled to satisfy myself, by the action of the limb alone, of the nature of the injury.

If the tendon alone is injured. the weight of the body is borne fairly well on the limb, but when the leg is picked up, the parts below the hock are suspended, or swung as it were, for a brief space before the foot is again set down, and, what is still more characteristic, the gastrocnemius becomes relaxed and coiled, and in consequence it is sometimes supposed that the seat of the injury is in this muscle or its tendon.

Frequently there is neither heat, swelling, nor tenderness at the seat of injury, but in severe cases where there has been complete laceration of the tendon I have been able to feel the gap so produced with ease.

If the muscle is lacerated, the animal is not only not able to bear weight on the limb, but when it is elevated the lower part of the leg swings in pendulum fashion in an inward direction, and the coiling of the gastrocnemius is very marked.

In the latter case it may readily be thought that the seat of the injury is the extensor pedis, but a little reflection as to the effects which would follow laceration of this muscle will serve to dispel any doubt that may be entertained on the point

In severe laceration of the muscle a complete and permanent recovery can scarcely be hoped for; in strain of the tendon I have never failed in effecting a cure, sometimes by securing the horse's head, so as to prevent recubation, and applying repeated blisters, and sometimes (in the worst cases) by putting the horse in slings, and immobilizing the limb for a period of several weeks by means of adhesive bandages.

(14) Injury to the Gastrocnemius.

Injury to the gastrocnemius, just above the hock, is occasionally met with; it is nearly always associated with lameness and with local inflammatory symptoms, and, if neglected, is followed by permanent thickening and contraction. It is always advisable to fire, and blister the part after the inflammation is reduced.

In concluding my observations on the subject under consideration, I wish particularly to direct your attention to the legal aspect of muscular disability. No matter what its origin or its character, the existence of undoubted evidence of recent or of old muscular injury is sufficient to warrant us in pronouncing unsound any animal that may have been purchased for any purpose, for the fulfilment of which the particular muscle or set of muscles which has been injured, is required.

GOVERNMENT VETY. DEPARTMENT.

CONTAGIOUS DISEASES IN ANIMALS.

Reported in Great Britain and Ireland during the week ended October 26th, 1889.

Pleuro-pneumonia.—In Great Britain 4 outbreaks were reported, viz., 3 in England, in the counties of Lancaster, Norfolk, and York (W.R.), and 1 in Scotland, in Edinburgh. Of the 15 cattle attacked with this disease 5 were in England and 10 in Scotland; and 14 healthy cattle which had been exposed to infection, 10 of them in England and 4 in Scotland.

No fresh outbreak was reported in Ireland during the week, but 4 cattle were found affected, and 20 healthy cattle in contact were slaughtered.

Anthrax.—Of this disease 2 fresh outbreaks were reported, both of them in Essex, 2 animals were attacked and died. No fresh cases were reported in Scotland, Wales, or Ireland.

Swine-Fever.—In Great Britain 94 outbreaks were reported, 91 in England, 2 in Wales, and 1 in Scotland; 494 swine were attacked, 293 diseased swine were killed, 188 died, 81 recovered, and 371 remained alive at the end of the week. In Ireland 7 fresh outbreaks were reported, and 46 pigs were attacked.

Glanders and Farcy.—Of Glanders 9 fresh outbreaks were reported in Great Britain, viz., 8 in London and 1 in Edinburgh: 15 horses were attacked, 14 in London and 1 in Edinburgh. Of farcy 7 outbreaks were reported and 17 horses attacked, all of them in London. No case of either glanders or farcy was reported in Ireland during the week.

Rabies.—In England 6 cases of rabies in dogs were reported, viz., 1 in Essex, 1 in Kent, 2 in London, and 2 in York (W.R.). In Ireland there were 10 cases of rabies in the week, 7 in dogs, in the counties of Armagh, Monaghan, Tyrone, Cork, Galway, and Roscommon. In addition to these 3 cattle were attacked, 2 in Armagh and 1 in Leitrim.

EXTRACTS.

ALLEGED NEGLIGENCE.

Down (Ireland) County Court.

Hawthorne v. *Bradley.*

Dr. John Hawthorne sued Charles F. Bradley, V.S., for £50 damages for negligence in treatment of a mare entrusted to his professional care.

Mr. Wilson, B.L. for plaintiff; Mr. Brown, B.L. for defendant.

Mr. Wilson stated the cause of action, and narrated the circumstances deposed to in evidence.

Plaintiff, examined by Mr. Wilson, said—On Thursday, 30th May the mare was lame and holding up her right hind foot. The farrier was sent for, who removed the shoe and directed that a poultice should be applied. She was put on soft food and the foot regularly attended to until Tuesday 4th June, when as she was not any better, Mr. Bradley was called in. He examined the mare and said she had got a prick with a stable pitchfork. I told him I would like him to look after her, and do what he could for her. He attended her regularly night and morning until Sunday. On Monday evening at his request a loose box was provided for her, and he put her in it. He gave her a drench on Tuesday

morning. He did not return on that day, nor on Wednesday. He told me on Thursday morning that he had been at Oldstone fair on the previous day. I said it seemed to me the mare was great deal worse and I was dissatisfied with his want of attention. He said he would give up the case. I said I was perfectly satisfied with his skill, if he would carefully look after her. He suggested a consultation. I agreed, and said I would be perfectly satisfied with anyone he would bring. He said he would write for Mr. Moran, of Belfast. Mr. Moran came on the twelve o'clock train. and Mr. Bradley brought him over. He said she was in a high fever; prescribed for her, and said she should get the medicine every four hours. Mr. Bradley, who was present all the time, said he could not be there every four hours, and I said if the medicine were sent over I would see that it was administered. He made no response to that, but turned round and asked Mr. Moran if he considered the mare was likely to recover. Mr. Moran said he saw nothing to prevent her. They went away, and I never saw Mr. Bradley to speak to him from that day to this. No medicine was sent over. I sent for Mr. Magill, in the hope he could do something to alleviate the frightful pain the mare was suffering, because I did not believe he could save her life. He administered some morphia, and later in the evening, owing to her condition, he advised that she should be shot. This was done.

Joseph May Magill, V.S., examined by Mr. Wilson, said—I was called in on Sunday evening, 16th June. The mare was then suffering great pain. I gave her a hypodermic injection of morphia to alleviate the pain. Between nine and ten o'clock I went back. The mare had lain down, and when she tried to get up she could not but fell out through the side of the loose box, and into the yard. She was giving signs of pain all the time. I gave an order that she should be shot because nothing else could be done, for she would have knocked her brains out in the yard. I made a *post-mortem* examination of the foot It was all congested in the sensitive portion. There was no matter in it, but the blood-vessels were congested. That arose from external injury to the foot, for there was no specific disease.

Mr. Brown addressed the jury for the defence.

Charles F. Bradley, examined by Mr. Brown, said—I attended the mare first on Thursday 6th of June. After examining the foot I concluded that she had received a jag of a stable-fork. There was a large ulcer formed, the parts were very much swollen and hard. I put a gentle blister on with a poultice on top. Saw the mare at least twice every day until the evening of the 11th, Tuesday. On Wednesday morning I visited her, and saw Dr. Hawthorne; dressed the horse's leg and did whatever was necessary. Told the Doctor she was much improved; and said that I would be going to Oldstone fair in the afternoon; that he and his servant could do all that was required, and that I would call again before leaving. Did go over about one o'clock with my brother. Left for Oldstone about half-past two and returned at seven on Thursday evening, and went over immediately. I saw his man in the yard, and went into the stable. While I was examining the mare, the plaintiff came in. I said, "Good evening, Doctor." He replied, "You may go to hell, for I would not be bothered waiting for you." I told him he knew I was at Oldstone fair, and I could not be there and here both, but that I defied him to get any man who would treat the mare better than I had done. I believe he said he would try and get one. I said he should get one before I would leave, for I thought he supposed I had treated the mare improperly and that he wanted a catch at me. The Doctor said "If you want a man get him yourself. Whom would you like?" I said whoever you like, but get a competent man from Belfast, and I mentioned Mr. Moran and Mr. Dunlop. I proposed to write for him that night; he suggested to wire; but I wrote by the evening post for Mr. Moran. The Doctor asked what would be his fee, and I said a guinea. He said for me to treat the mare until the other man would come. Mr. Moran came on the twelve o'clock train and was informed of what had been done; he seemed perfectly satisfied that the mare had been properly treated, and said he had no doubt she would get better. He told the Doctor what medicine to get and how to use it. There was no conversation in my hearing that the medicine was to be administered every four hours. I made no difficulty about attending to administer the medicine, because I was not concerned about it. I did not go back again, as I considered I had been discharged, but felt it was my duty to attend the mare until the other man came in.

To Mr. Wilson.—I am certain about the dates because I had entries in my books. I swear that I attended the mare twice on Wednesday the 12th and he saw me. It was on Wednesday evening I went to the fair to buy horses. The Doctor's statement that I was there on Thursday morning is altogether an invention, for I was in Oldstone then and not home until the evening.

Wm. Gibson, a servant formerly in Dr. Hawthorne's employment, gave evidence in corroboration of Mr. Bradley. He added that before he went away on Sunday evening he gave the mare her mash about nine o'clock, and also two quarts of chilled water, both of which she took. He left her a bunch of green grass and she began to eat it. When he returned on Monday morning he learned she had been shot.

Mr. Moran, V.S., was examined by Mr. Brown, and deposed to seeing the mare in consultation with defendant on Friday, 14th June. She seemed to be suffering a good deal of pain in her off hind leg. Her pulse and temperature were high. Mr. Bradley told him the course of treatment and he approved of it. The medicine he (witness) prescribed was sedative and stimulating, but not a specific. Even without it he thought the mare should have recovered. He thought the shooting of the mare was a very rash act. A horse that was able to feed at nine o'clock on Sunday evening should not have been shot at ten.

Counsel having addressed the jury,

His Honour then reviewed the evidence, in detail. Did the jury believe the conduct of Mr. Bradley

was the conduct of a man who felt he was discharged. He told them that Mr. Magill would not consult with him, nor he with Magill, and that he advised Dr. Hawthorn to get a man from Belfast. Even the amount of the fee was spoken of. Would Bradley be the man to write for Moran if he was dismissed from the case? Was it not rather what should happen in the case of a consultation? It was for them to say; but it seemed to him, as a matter of common sense, that it was impossible to believe that Bradley felt himself discharged from attendance and from liability. If he was dismissed on Thursday evening, why should he have gone the following morning and treated the mare as he admitted he did? After some further observations his Honour put it to the jury did they believe Mr. Bradley was dismissed, and if not did they consider he had neglected the duty he was engaged to do in the treatment of the mare.

The jury retired, and after some consideration failed to agree.

They were discharged, and the case was adjourned until next Sessions.—*Banbridge Chronicle.*

THE VETERINARY MANUFACTURING COMPANY.

In the City of London Court, on Monday, October 28th, before Mr. Commissioner Kerr, the case of Jacobs *v.* Woodman was disposed of. The plaintiffs, Messrs. E. Jacobs & Son, who carry on business as the Veterinary Medicine Manufacturing Company, 103 Houndsditch, E.C., sought to recover the sum of £5 6s. 10d. for medicines supplied to the defendant, Mr. John Woodman, of Hartley Row, Winchfield, Hampshire.

Mr. E. B. Tattershall, who appeared for the plaintiffs, said the only question for the Court was the jurisdiction, but to this the defendant strongly dissented. He said when the plaintiffs' traveller called on him he said he wanted to sell him some articles. He replied that he was not in a position to buy. The traveller then said he wanted him to become their agent, and upon those terms he accepted the goods for which he had been sued. He was not an educated man.

Mr. Tattershall pointed out to the Court that if the defendant did not return the goods within six months they were to be regarded as sold, under the terms of the contract which he entered into, and which he signed.

Mr. Commissioner Kerr: Oh yes; those travellers! What have you done with the goods?

Mr. Tattershall: He has got them, sir.

The Defendant: I have only sold 1s. 6d. worth. The people would not buy them. It was some chemical stuff I was to sell, to give to hens to make them lay contrary to nature. (Loud laughter.) It is dishonest.

Mr. Commissioner Kerr: Well, you can rest assured that won't happen. I believe he was nothing but an agent. This sort of thing always takes place.

The traveller was called, and said he took the order in the ordinary course of business. He told the defendant if he did not return the goods in the six months he would have to pay for them. He had the option of returning them. He did not tell the defendant he was an agent.

Mr. Commissioner Kerr: I believe he bought them as agent. What business has he to buy £5 worth of chemicals? The thing is absurd! I must have the clearest and most distinct evidence that an ignorant man of this kind knows what he is about.

Mr. Tattershall: You have the evidence, Sir.

Mr. Commissioner Kerr: Yes, witnesses always say that.

The defendant (emphatically): It is a gross robbery job!

Mr. Commissioner Kerr: You are getting an old man; you had better take care what you sign again. I am very much inclined to believe that these things were thrown upon him. I see so much of it now that I must be very strict—very strict indeed.

Judgment was accordingly given for the defendant, and he was allowed his costs.

The case of Jacobs *v.* Medcraft also came before the court. The plaintiffs were the same as in the last case, and they sued the defendant, Mr. W. Medcraft, of Islip, near Oxford, for £5 11s. 9d., chemicals supplied.

The defendant said the facts were the same as in the last case. He returned the goods, and they were still lying at the station of the London and North-Western Railway Company. He sent those back he could not sell, and those he had sold he paid for. He sent the goods back just over the six months, and he wrote and told them he should be glad if they would look over that little irregularity.

Mr. Commissioner Kerr: I can't make him pay for these goods. He is a man of sufficient intelligence to know that he ought to have sent them back within the time. I will give judgment for the defendant, but I shall allow him no costs. These actions must not be brought.

Judgment accordingly.

The case of Jacobs *v.* Clower was heard before Mr. Registrar Wild, in the City of London Court on Monday.

Mr. Tattershall appeared for the plaintiffs, and the only question for the Court to determine was the defendant's right to a discount. The order for the chemicals was admitted and the delivery was undisputed, but the defendant said he was entitled to 5 per cent., which had not been allowed.

Mr. Tattershall said it was never allowed in the chemical trade.

The defendant produced his book, in which there was an entry signed by the plaintiff's representative, who took the order, stating "5 per cent. for cash and nett three months."

The Registrar said judgment must be entered for the defendant.

TUBERCULOUS MEAT: A NATIONAL QUESTION.

It is daily becoming more and more evident that the tuberculosis question is one which, in its bearings on our meat supply, will have to be taken in hand by Government promptly and vigorously. It is, however, a good sign that so many cases are coming up for decision before the magistrates; and that, on the other hand, the butchers themselves are becoming quickened as to the sense of the importance of the situation. For example, we find that in Sheffield the butchers are asking for the appointment of a jury of experts, consisting of a veterinary surgeon and two or three butchers, to whom all doubtful cases should be submitted.

Recent proceedings in Glasgow have caused a considerable quickening amongst medical officers of health and others having to do with the question of diseased meat. Some are actively engaged in carrying on a crusade against the sale of tuberculous meat, and are making some headway against very long odds; but, on the other hand, we find on referring to the thirty-third annual report of the medical officer of health to the Metropolitan Board of Works, Holborn District, that the bacillary theory of consumption is utterly scouted, that the report of the Royal Committee is pooh-poohed, and that the bacilli of tuberculosis are compared to "the worms that spread under and cover our corpses, and perform their allotted and beneficial *rôle* in the economy of Nature. The attempt to extirpate them is, to my mind, an impossible task—a vain endeavour to thwart the immutable laws of God and Nature." How can the lay public be brought to consider the matter seriously when a medical officer of health, to be engaged in waging continual war against filth, and refuse, and disease, and death, talks in this way, and confuses things that have absolutely nothing to do with one another? Even all medical officers of health, then, cannot be relied upon in this matter.

What we want, and what the medical profession must fight for, is a definite system of control, placed in the hands of thoroughly qualified inspectors, who shall have full power to condemn without appeal and destroy all meat that they may consider unfit for human food. The foreign system of stamping meat must be introduced, so that all meat not actually killed under direct supervision must still pass under the inspector's examination.

Whether the compensation is to be out of the rates, out of the slaughter-house dues, or by a system of mutual insurance, has still to be considered, but that a competent medical and veterinary, or simply veterinary, inspecting staff must be appointed, with very full executive powers, is becoming more and more evident to those who are interesting themselves in the matter of our meat supply.—*British Medical Journal.*

ALL-OPATHY.—The mischief about taking a medicine warranted to cure all diseases is that it may not know exactly what is wanted of it, and in that case it will go fooling around in the system trying to cure you of some disease that you have not got.

NOTES AND NEWS.

The Pleuro Question.

We noted a fortnight ago that the Scottish Chamber of Agriculture, at its annual meeting on the 12th inst. would, among other things, discuss the Pleuro Slaughter Order. We now learn that the secretary, Mr. Curror, has invited all the men of light and leading in the veterinary world to attend the meeting and take part in the discussion, and most of these gentlemen have agreed to do so. Many of the leading stock-owners in the country are also to be present, and the meeting will be a valuable one, as showing how the facts on each side may or may not be combated by those on the other. Resolutions expressive of the feeling of the meeting will be forwarded to the Department of Agriculture. The meeting will be free to all who are interested, and it is much to be hoped that it will be fully representative of Scottish Agriculture. — *North British Agriculturist.*

Glanders in Hawaii.

In the October number of *The American Veterinary Review* an Obituary notice of Mr. Jas. Brodie appears. The deceased gentleman was a graduate of the Montreal College, and in 1884 accepted the position of veterinarian to the Hawaiian Government. At Honolulu "he promptly made his influence felt by his energetic action in the control and extirpation of glanders, which was causing fearful ravages among the horses and mules of the little kingdom at the time of his arrival."

CORRESPONDENCE.

Communications for the Editor to be addressed 20 Fulham Road, S.W.

Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.

THE WARBLE FLY.

DEAR SIR,

In "Editorial Notes" of October 26th you regret that veterinary surgeons, save one member, have given no attention to the ox warble or to remedies to prevent the ravages of this pestiferous insect, and refer to a want of interest by rural men in prophylactic measures generally. From a wide acquaintance of country practitioners I wish in justice to agricultural veterinarians to point out that they are fully alive to the interests of farmers in the care of cattle and in suggesting preventives for even the minor ailments of stock. As far back as 1885 Mr. Olver, of Truro, read a highly interesting paper on the Ox Warble Fly to the Western Counties Veterinary Medical Association, and the fatal consequence of naturalists recommending the application of poisonous agents to the backs of animals in the habit of licking themselves was fully demonstrated.

Yours faithfully, WM. PENHALE, Barnstaple.

[We must say again that all we regretted was that our practitioners did not sufficiently make use of publicity. We quite recognize their powers of observation.—ED.